(FILE 'HOME' ENTERED AT 16:31:31 ON 26 JAN 2002)

FILE 'CAPLUS' ENTERED AT 16:31:46 ON 26 JAN 2002
L1 357 S SUBMERG? COMBUST?
L2 1 S CULLET (3N) ORGANIC

FILE 'STNGUIDE' ENTERED AT 16:33:58 ON 26 JAN 2002

FILE 'CAPLUS' ENTERED AT 16:34:07 ON 26 JAN 2002
L3 1 S (CULLET (5A) ORGANIC)
L4 1 S (CULLET (S) ORGANIC)
L5 5 S (CULLET AND ORGANIC)
L6 590982 S (CULLET OR GLASS)
L7 590982 S (CULLET OR GLASS)
L8 587670 S (WASTE OR ORGANIC)

L10 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 1998:174931 CAPLUS
DN 128:234216
TI Manufacture of supplementary cementitious materials from industrial **wastes**
AU Mishulovich, Alex; Bhatty, Javed I.; Abbasi, Hamid A.; Rue, David; Olabin, Vladimir M.; Pioro, Leonard S.
CS Construction Technology Laboratories, Skokie, IL, USA
SO Proc. Int. Conf. Incineration Therm. Treat. Technol. (1996), 297-301
Publisher: University of California, Irvine, Irvine, Calif.
CODEN: 65TTAP
DT Conference
LA English
CC 58-1 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 60
AB Supplementary cementitious materials (SCM) were manufd. by melting and vitrification of specially designed blends of **wastes** with the addn. of inexpensive natural materials (limestone, sand, shale, etc.). This approach opens an outlet for the rational use of **wastes** and reduces carbon dioxide emission usually assocd. with prodn. of conventional portland cement. The paper summarizes the results of the bench top phase of formulation and testing of SCMs prepd. from Illinois coal ash with the addn. of inexpensive natural or **waste** materials, such as limestone or cement kiln dust. Selection of the prospective compns. was based on the anal. of phase equil. in the system CaO-SiO2-Al2O3. Compns. were chosen that melt at temps. <1250.degree.. These compns. were realized by mixing the ingredients in the calcd. proportions. Performance of the produced materials was tested in blended cements and concretes. Blended cements incorporating SCMs are not only competitive in terms of strength but have an addnl. advantage of preventing or greatly reducing deleterious chem. reactions between the cement paste and concrete aggregates. This improves the durability of concrete. Unlike conventional portland cements, the supplementary cementing materials should be produced in the form of **glasses** to provide the necessary chem. reactivity of the product. Besides, vitrification prevents leaching of the trace elements present in the source materials. Submerged gas combustion was suggested and tested as the process of choice for commercialization of this technol. Pilot testing of the **submerged combustion** melter begins this year in a 250-kg/h test facility. Further studies are under way to finalize the prodn. process parameters and to investigate the products performance.
ST supplementary cementitious material industrial **waste**
IT **Wastes**
(industrial; manuf. of supplementary cementitious materials from industrial **wastes**)
IT Cement (construction material)

Recycling
(manuf. of supplementary cementitious materials from industrial **wastes**)

L10 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 1994:282461 CAPLUS
DN 120:282461
TI Development of spent solvent treatment process by a **submerged combustion** technique
AU Uchiyama, Gunzo; Maeda, Mitsuru; Fujine, Sachio; Amakawa, Masayuki; Uchida, Katsuhide; Chida, Mitsuhisa
CS Dep. Fuel Cycle Saf. Res., Japan At. Energy Res. Inst., Tokai, 319-11, Japan
SO J. Nucl. Sci. Technol. (1994), 31(3), 228-39
CODEN: JNSTAX; ISSN: 0022-3131
DT Journal
LA English
CC 71-5 (Nuclear Technology)
AB An exptl. study using a bench-scale equipment of 1 kg-stimulated spent solvents per h was conducted in order to evaluate the applicability of a **submerged combustion** technique for the treatment of spent solvents contaminated with TRU elements. This report describes the exptl. results on the combustion characteristics of the simulated spent solvents of tri-Bu phosphate and/or n-dodecane, and on the distribution behaviors of combustion products such as phosphoric acid, Ru, I, Zr and lanthanides as TRU simulants in the **submerged combustion** process. Also the exptl. results of TRU sepn. from phosphoric acid soln. by copptn. using bismuth phosphate are reported. The **submerged combustion** technique was applicable to the treatment of spent solvents including the distn. residues of the solvent. Based on the exptl. data, a new treatment process of spent solvent was proposed which consisted of **submerged combustion**, co-pptn. using bismuth phosphate, ceramic membrane filtration, cementation of TRU lean phosphate, and vitrification of TRU rich **waste**.
ST **submerged combustion** spent fuel reprocessing solvent; tributyl phosphate **submerged combustion**; dodecane **submerged combustion**; lanthanide transuranium simulant **submerged combustion**; copptn phosphate transuranium sepn radioactive **waste**; cementation phosphate sepn radioactive **waste**; filtration spent solvent fuel reprocessing; vitrification transuranium sepn fuel reprocessing **waste**
IT Gamma ray
(-emitters, recovery of, in treatment process for spent fuel reprocessing solvents)
IT Rare earth metals, reactions
RL: RCT (Reactant)
(combustion of transuranic simulant, in spent fuel reprocessing solvent treatment process)
IT Hydrocarbons, preparation
RL: FORM (Formation, nonpreparative)
(formation of, in simulated spent fuel reprocessing solvent treatment by **submerged combustion**)
IT Evaporation
Neutralization
(in nuclear fuel reprocessing spent solvent treatment process)
IT Cementation
(of transuranium-element depleted phosphate **wastes**, in treatment process for spent fuel reprocessing solvents)
IT Transuranium elements
RL: PROC (Process)
(recovery of, in treatment process for spent fuel reprocessing solvents)
IT Radioactive **wastes**

(spent solvent treatment process for fuel reprocessing, **submerged combustion** technique in)

IT Nuclear reactor fuel reprocessing
(spent solvent treatment process, **submerged combustion** technique in)

IT Filters and Filtering materials
(ceramic, in nuclear fuel reprocessing spent solvent treatment process)

IT Precipitation
(co-, in nuclear fuel reprocessing spent solvent treatment process)

IT **Glass**, oxide
RL: PROC (Process)
(radioactive-**waste**, transuranium-element enriched, in treatment process for spent fuel reprocessing solvents)

IT Combustion
(submerged, in nuclear fuel reprocessing spent solvent treatment process)

IT 12587-47-2P, Beta particle
RL: PREP (Preparation)
(-emitters, recovery of, in **submerged combustion** treatment process for spent fuel reprocessing solvents)

IT 34513-98-9
RL: PROC (Process)
(combustion of simulated spent fuel reprocessing solvent contg., radioactive **waste** disposal in relation to)

IT 74-88-4, Methyl iodide, reactions 75-03-6, Ethyl iodide 107-08-4, Propyl iodide
RL: RCT (Reactant)
(combustion of simulated spent fuel reprocessing solvent contg., radioactive **waste** disposal in relation to)

IT 10108-73-3, Cerium trinitrate 10138-01-9, Europium trinitrate 10361-83-8, Samarium trinitrate 13826-66-9, Zirconyl dinitrate
RL: PROC (Process)
(combustion of transuranic simulant, in spent fuel reprocessing solvent treatment process)

IT 112-40-3, Dodecane 126-73-8, Tributyl phosphate, reactions
RL: RCT (Reactant)
(combustion of, in simulated spent fuel reprocessing solvent treatment process, radioactive **waste** issues in relation to)

IT 7782-44-7
RL: PROC (Process)
(combustion, submerged, in nuclear fuel reprocessing spent solvent treatment process)

IT 13847-18-2, Barium phosphate
RL: PROC (Process)
(copptn. with, of transuranics in simulated spent fuel reprocessing solvent treatment process)

IT 124-38-9P, Carbon dioxide, preparation 630-08-0P, Carbon monoxide, preparation 7782-44-7P, Oxygen, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in simulated spent fuel reprocessing solvent treatment by **submerged combustion**)

IT 7553-56-2P, Iodine, preparation 15454-31-6P, Iodate (IO3-) 20461-54-5P, Iodide, preparation
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing solvent contg. alkyl iodides)

IT 7440-18-8P, Ruthenium, preparation
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing solvent contg. ruthenium nitrosyl nitrate)

IT 7440-18-8DP, Ruthenium, phosphate complexes
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing

solvent contg. ruthenium nitrosyl nitrate, radioactive **waste** disposal in relation to)

IT 13454-71-2P, Cerium monophosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. cerium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13537-10-5P, Europium(III) phosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. europium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13465-57-1P, Samarium(III) phosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. samarium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13565-97-4P, Zirconium pyrophosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. zirconyl nitrate, fuel reprocessing **waste** issues in relation to)

IT 7440-07-5P, Plutonium, preparation
RL: PREP (Preparation)
(recovery of, from phosphoric acid solns. by copptn. with barium phosphate, spent fuel reprocessing solvent **waste** in relation to)

IT 7664-38-2P, Phosphoric acid, preparation
RL: PREP (Preparation)
(recovery of, from tri-Bu phosphate combustion in simulated spent fuel reprocessing solvent treatment process)

L10 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 1964:467389 CAPLUS
DN 61:67389
OREF 61:11643c-d
TI Recovery of sulfuric acid and metal salt from spent sulfuric acid. IX. Treatment of spent sulfuric acid liquor by middle scale apparatus. 2. Concentration of spent sulfuric acid liquor by the **submerged combustion** apparatus
AU Kubo, Teruichiro; Taniguchi, Masao; Senda, Shokichi; Sato, Katsuaki
CS Tokyo Inst. Technol
SO Kogyo Kagaku Zasshi (1964), 67, 869
DT Journal
LA Unavailable
CC 17 (Industrial Inorganic Chemicals)
AB By use of a **submerged combustion** vessel having a capacity of 400 l. the concn. of dil. H_2SO_4 and **waste** H_2SO_4 was examd. The inner face of the steel vessel was lined with **glass**. The burner for the combustion of natural gas was made of graphite in dil. acid and of steel in concd. acid. Heat efficiency was 78.5-85.8% at concns. of 10.9-42.5% and 61.2-78.8% at concns. of 42.5-85.1%. In the case of xwaste acid concn. almost the same results were obtained.

(FILE 'HOME' ENTERED AT 16:31:31 ON 26 JAN 2002)

FILE 'CAPLUS' ENTERED AT 16:31:46 ON 26 JAN 2002
L1 357 SEA PLU=ON SUBMERG? COMBUST?
L*** DEL 0 S CULLET NEAR3 ORGANIC
L2 1 SEA PLU=ON CULLET (3A) ORGANIC

FILE 'STNGUIDE' ENTERED AT 16:33:58 ON 26 JAN 2002
SET LINE 250
SET DETAIL OFF

FILE 'CAPLUS' ENTERED AT 16:34:07 ON 26 JAN 2002

```
                SET LINE LOGIN
                SET DETAIL LOGIN
                SET NOTICE 1000 SEARCH
L3              1 SEA PLU=ON  (CULLET (5A) ORGANIC)
L4              1 SEA PLU=ON  (CULLET (S) ORGANIC)
L5              5 SEA PLU=ON  (CULLET AND ORGANIC)
L6         590982 SEA PLU=ON  (CULLET OR GLASS)
L7         590982 SEA PLU=ON  (CULLET OR GLASS)
L8         587670 SEA PLU=ON  (WASTE OR ORGANIC)
                SET NOTICE LOGIN SEARCH
L9          20742 SEA PLU=ON  L6 AND L8
L10             3 SEA PLU=ON  L1 AND L9
                D 1-3 ALL
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FILE HOME

FILE CAPLUS

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FILE COVERS 1907 - 26 Jan 2002 VOL 136 ISS 5
FILE LAST UPDATED: 25 Jan 2002 (20020125/ED)

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Attention, the CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 25, 2002 (20020125/UP).

FILE & COST CENTER		QUANTITY @	RATE	ESTIMATED COST U.S. DOLLARS
HOME FILE	COST=			
CONNECT HOURS		0.01 @	15.00	0.15
INTERNET HOURS		0.01 @	6.00	0.06
CAPLUS FILE	COST=			
CONNECT HOURS		0.04 @	32.00	1.28

INTERNET HOURS	0.04	@	6.00	0.24
SEARCH TERMS IN FIELD BI	7	@	1.55	10.85
CAPLUS FEE (5%)	12.13	@	0.05	0.61
STNGUIDE FILE COST=				
SFE CONNECT HOURS	0.01	@	0.00	0.00
INTERNET HOURS	0.01	@	6.00	0.06
CAPLUS FILE COST=				
CONNECT HOURS	0.05	@	32.00	1.60
INTERNET HOURS	0.05	@	6.00	0.30
DISPLAYS IN FORMAT ABS	3	@	1.27	3.81
DISPLAYS IN FORMAT BIB	3	@	0.91	2.73
DISPLAYS IN FORMAT IND	3	@	0.27	0.81
SEARCH TERMS IN FIELD BI	12	@	1.55	18.60
CAPLUS FEE (5%)	27.55	@	0.05	1.38

SUMMARY BY FILE AND	COST CENTER	HOURS	ESTIMATED COST U.S. DOLLARS
HOME FILE	(NONE)	0.01	0.21
CAPLUS FILE	(NONE)	0.09	42.21
STNGUIDE FILE	(NONE)	0.01	0.06
COSTS INCLUDE TELECOMMUNICATION FEES		0.11	0.66

SUMMARY BY	COST CENTER	HOURS	ESTIMATED COST U.S. DOLLARS
	(NONE)	0.11	42.48
YOUR TOTAL SESSION COSTS ARE		0.11	42.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.86	-1.86

IN FILE 'CAPLUS' AT 16:37:16 ON 26 JAN 2002

(FILE 'HOME' ENTERED AT 16:31:31 ON 26 JAN 2002)

FILE 'CAPLUS' ENTERED AT 16:31:46 ON 26 JAN 2002

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L1          357 S SUBMERG? COMBUST?
L2            1 S CULLET (3N) ORGANIC
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FILE 'STNGUIDE' ENTERED AT 16:33:58 ON 26 JAN 2002

FILE 'CAPLUS' ENTERED AT 16:34:07 ON 26 JAN 2002

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L3            1 S (CULLET (5A) ORGANIC)
L4            1 S (CULLET (S) ORGANIC)
L5            5 S (CULLET AND ORGANIC)
L6       590982 S (CULLET OR GLASS)
L7       590982 S (CULLET OR GLASS)
L8       587670 S (WASTE OR ORGANIC)
L9        20742 S L6 AND L8
L10           3 S L1 AND L9
```

L12 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 1980:152353 CAPLUS
DN 92:152353
TI Treatment of **organic** waste liquor by **submerged** **combustion** process. II
AU Osada, Takeshi; Miyauchi, Yoshio
CS Toray Eng. Co. Ltd., Japan
SO Nenryo oyobi Nensho (1979), 46(9), 791-824
CODEN: NEONAA; ISSN: 0369-3783
DT Journal; General Review

LA Japanese

L12 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 1980:27937 CAPLUS
DN 92:27937
TI Treatment of **organic** waste liquor by **submerged** **combustion** process. I
AU Osada, Takeshi; Miyauchi, Yoshio
CS Toray Eng. Co., Ltd., Japan
SO Nenryo oyobi Nensho (1979), 46(8), 701-20
CODEN: NEONAA; ISSN: 0369-3783
DT Journal; General Review
LA Japanese

L12 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 1979:209590 CAPLUS
DN 90:209590
TI Treatment of **organic** waste liquor by the **submerged** **combustion** process
AU Miyauchi, Yoshio; Osada, Takeshi
CS Toray Eng. Co., Ltd., Osaka, Japan
SO PPM (1978), 9(5), 25-35
CODEN: PPMMDV
DT Journal
LA Japanese

L12 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 1975:174055 CAPLUS
DN 82:174055
TI Recovery of Group VIII metals from solutions of rare metal-organophosphorus complexes in **organic** solvents
IN Onoda, Takeru; Tsunoda, Yoshitoshi; Nomura, Takao; Nonaka, Takehisa; Kurashiki, Okayama; Masuyama, Tetsuo
PA Mitsubishi Chemical Industries Co., Ltd., Japan
SO Ger. Offen., 15 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2438847	A1	19750227	DE 1974-2438847	19740813
	DE 2438847	B2	19770120		
	DE 2438847	C3	19770901		
	JP 50039690	A2	19750411	JP 1973-91054	19730814
	NL 7410884	A	19750218	NL 1974-10884	19740814
	NL 177700	B	19850603		
	NL 177700	C	19851101		
	FR 2240957	A1	19750314	FR 1974-28249	19740814
	FR 2240957	B1	19781124		
	US 3920449	A	19751118	US 1974-497414	19740814
	GB 1449408	A	19760915	GB 1974-35855	19740814
PRAI	JP 1973-91054		19730814		

L12 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 1974:52114 CAPLUS
DN 80:52114
TI Waste treatment process based on the **submerged** **combustion** technology
AU Tsuruta, Hidemasa
CS Nittetsu Chem. Eng. Ltd., Japan
SO Sekiyu Gakkai Shi (1973), 16(8), 646-50
CODEN: SKGSAE

DT Journal
LA Japanese

L12 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 1971:467222 CAPLUS
DN 75:67222
TI Recovering hydrogen chloride from a spent organochlorine compound
IN Ezaki, Shigeho
PA Yawata Chemical Engineering Co., Ltd.
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3589864	A	19710629	US 1969-811905	19690401
PRAI	JP 1968-21404		19680403		

L14 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS
AN 1998:174931 CAPLUS
DN 128:234216
TI Manufacture of supplementary cementitious materials from industrial **wastes**
AU Mishulovich, Alex; Bhatty, Javed I.; Abbasi, Hamid A.; Rue, David; Olabin, Vladimir M.; Pioro, Leonard S.
CS Construction Technology Laboratories, Skokie, IL, USA
SO Proc. Int. Conf. Incineration Therm. Treat. Technol. (1996), 297-301
Publisher: University of California, Irvine, Irvine, Calif.
CODEN: 65TTAP
DT Conference
LA English
CC 58-1 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 60
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ST supplementary cementitious material industrial **waste**

IT **Wastes**
(industrial; manuf. of supplementary cementitious materials from industrial **wastes**)
IT Cement (construction material)
Recycling
(manuf. of supplementary cementitious materials from industrial **wastes**)

L14 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
AN 1994:282461 CAPLUS
DN 120:282461
TI Development of spent solvent treatment process by a **submerged combustion** technique
AU Uchiyama, Gunzo; Maeda, Mitsuru; Fujine, Sachio; Amakawa, Masayuki; Uchida, Katsuhide; Chida, Mitsuhisa
CS Dep. Fuel Cycle Saf. Res., Japan At. Energy Res. Inst., Tokai, 319-11, Japan
SO J. Nucl. Sci. Technol. (1994), 31(3), 228-39
CODEN: JNSTAX; ISSN: 0022-3131
DT Journal
LA English
CC 71-5 (Nuclear Technology)
AB An exptl. study using a bench-scale equipment of 1 kg-stimulated spent solvents per h was conducted in order to evaluate the applicability of a **submerged combustion** technique for the treatment of spent solvents contaminated with TRU elements. This report describes the exptl. results on the combustion characteristics of the simulated spent solvents of tri-Bu phosphate and/or n-dodecane, and on the distribution behaviors of combustion products such as phosphoric acid, Ru, I, Zr and lanthanides as TRU simulants in the **submerged combustion** process. Also the exptl. results of TRU sepn. from phosphoric acid soln. by copptn. using bismuth phosphate are reported. The **submerged combustion** technique was applicable to the treatment of spent solvents including the distn. residues of the solvent. Based on the exptl. data, a new treatment process of spent solvent was proposed which consisted of **submerged combustion**, co-pptn. using bismuth phosphate, ceramic membrane filtration, cementation of TRU lean phosphate, and **vitrification** of TRU rich **waste**.
ST **submerged combustion** spent fuel reprocessing solvent; tributyl phosphate **submerged combustion**; dodecane **submerged combustion**; lanthanide transuranium simulant **submerged combustion**; copptn phosphate transuranium sepn radioactive **waste**; cementation phosphate sepn radioactive **waste**; filtration spent solvent fuel reprocessing; **vitrification** transuranium sepn fuel reprocessing **waste**
IT Gamma ray
(-emitters, recovery of, in treatment process for spent fuel reprocessing solvents)
IT Rare earth metals, reactions
RL: RCT (Reactant)
(combustion of transuranic simulant, in spent fuel reprocessing solvent treatment process)
IT Hydrocarbons, preparation
RL: FORM (Formation, nonpreparative)
(formation of, in simulated spent fuel reprocessing solvent treatment by **submerged combustion**)
IT Evaporation
Neutralization
(in nuclear fuel reprocessing spent solvent treatment process)
IT Cementation
(of transuranium-element depleted phosphate **wastes**, in treatment process for spent fuel reprocessing solvents)
IT Transuranium elements

RL: PROC (Process)
(recovery of, in treatment process for spent fuel reprocessing solvents)

IT Radioactive **wastes**
(spent solvent treatment process for fuel reprocessing, **submerged combustion** technique in)

IT Nuclear reactor fuel reprocessing
(spent solvent treatment process, **submerged combustion** technique in)

IT Filters and Filtering materials
(ceramic, in nuclear fuel reprocessing spent solvent treatment process)

IT Precipitation
(co-, in nuclear fuel reprocessing spent solvent treatment process)

IT Glass, oxide
RL: PROC (Process)
(radioactive-**waste**, transuranium-element enriched, in treatment process for spent fuel reprocessing solvents)

IT Combustion
(submerged, in nuclear fuel reprocessing spent solvent treatment process)

IT 12587-47-2P, Beta particle
RL: PREP (Preparation)
(-emitters, recovery of, in **submerged combustion** treatment process for spent fuel reprocessing solvents)

IT 34513-98-9
RL: PROC (Process)
(combustion of simulated spent fuel reprocessing solvent contg., radioactive **waste** disposal in relation to)

IT 74-88-4, Methyl iodide, reactions 75-03-6, Ethyl iodide 107-08-4, Propyl iodide
RL: RCT (Reactant)
(combustion of simulated spent fuel reprocessing solvent contg., radioactive **waste** disposal in relation to)

IT 10108-73-3, Cerium trinitrate 10138-01-9, Europium trinitrate 10361-83-8, Samarium trinitrate 13826-66-9, Zirconyl dinitrate
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(combustion of transuranic simulant, in spent fuel reprocessing solvent treatment process)

IT 112-40-3, Dodecane 126-73-8, Tributyl phosphate, reactions
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(combustion of, in simulated spent fuel reprocessing solvent treatment process, radioactive **waste** issues in relation to)

IT 7782-44-7
RL: PROC (Process)
(combustion, submerged, in nuclear fuel reprocessing spent solvent treatment process)

IT 13847-18-2, Barium phosphate
RL: PROC (Process)
(copptn. with, of transuranics in simulated spent fuel reprocessing solvent treatment process)

IT 124-38-9P, Carbon dioxide, preparation 630-08-0P, Carbon monoxide, preparation 7782-44-7P, Oxygen, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in simulated spent fuel reprocessing solvent treatment by **submerged combustion**)

IT 7553-56-2P, Iodine, preparation 15454-31-6P, Iodate (IO3-) 20461-54-5P, Iodide, preparation
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing solvent contg. alkyl iodides)

IT 7440-18-8P, Ruthenium, preparation
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing

solvent contg. ruthenium nitrosyl nitrate)

IT 7440-18-8DP, Ruthenium, phosphate complexes
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing solvent contg. ruthenium nitrosyl nitrate, radioactive **waste** disposal in relation to)

IT 13454-71-2P, Cerium monophosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. cerium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13537-10-5P, Europium(III) phosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. europium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13465-57-1P, Samarium(III) phosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. samarium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13565-97-4P, Zirconium pyrophosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. zirconyl nitrate, fuel reprocessing **waste** issues in relation to)

IT 7440-07-5P, Plutonium, preparation
RL: PREP (Preparation)
(recovery of, from phosphoric acid solns. by copptn. with barium phosphate, spent fuel reprocessing solvent **waste** in relation to)

IT 7664-38-2P, Phosphoric acid, preparation
RL: PREP (Preparation)
(recovery of, from tri-Bu phosphate combustion in simulated spent fuel reprocessing solvent treatment process)

(FILE 'HOME' ENTERED AT 16:31:31 ON 26 JAN 2002)

FILE 'CAPLUS' ENTERED AT 16:31:46 ON 26 JAN 2002
L1 357 SEA PLU=ON SUBMERG? COMBUST?
L*** DEL 0 S CULLET NEAR3 ORGANIC
L2 1 SEA PLU=ON CULLET (3A) ORGANIC

FILE 'STNGUIDE' ENTERED AT 16:33:58 ON 26 JAN 2002
SET LINE 250
SET DETAIL OFF

FILE 'CAPLUS' ENTERED AT 16:34:07 ON 26 JAN 2002
SET LINE LOGIN
SET DETAIL LOGIN
SET NOTICE 1000 SEARCH
L3 1 SEA PLU=ON (CULLET (5A) ORGANIC)
L4 1 SEA PLU=ON (CULLET (S) ORGANIC)
L5 5 SEA PLU=ON (CULLET AND ORGANIC)
L6 590982 SEA PLU=ON (CULLET OR GLASS)
L7 590982 SEA PLU=ON (CULLET OR GLASS)
L8 587670 SEA PLU=ON (WASTE OR ORGANIC)
SET NOTICE LOGIN SEARCH
L9 20742 SEA PLU=ON L6 AND L8
L10 3 SEA PLU=ON L1 AND L9
D 1-3 ALL
D COST FULL
L11 6 SEA PLU=ON L1 AND ORGANIC
L12 6 SEA PLU=ON L11 NOT L10
D 1-6
L13 2233 SEA PLU=ON VITRIFICATION AND WASTE

L14 2 SEA PLU=ON L1 AND L13
D 1-2 ALL

FILE HOME

FILE CAPLUS

FILE COVERS 1907 - 26 Jan 2002 VOL 136 ISS 5
FILE LAST UPDATED: 25 Jan 2002 (20020125/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

CAplus now provides online access to patents and literature covered in CA from 1907 to the present. Bibliographic information and abstracts were added in 2001 for over 3.8 million records from 1907-1966.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The CA Lexicon is now available in the Controlled Term (/CT) field. Enter HELP LEXICON for full details.

Attention, the CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jan 25, 2002 (20020125/UP).

FILE & COST CENTER	QUANTITY	@	RATE	ESTIMATED COST U.S. DOLLARS
HOME FILE COST=				
CONNECT HOURS	0.01	@	15.00	0.15
INTERNET HOURS	0.01	@	6.00	0.06
CAPLUS FILE COST=				
CONNECT HOURS	0.04	@	32.00	1.28
INTERNET HOURS	0.04	@	6.00	0.24
SEARCH TERMS IN FIELD BI	7	@	1.55	10.85
CAPLUS FEE (5%)	12.13	@	0.05	0.61
STNGUIDE FILE COST=				
SFE CONNECT HOURS	0.01	@	0.00	0.00
INTERNET HOURS	0.01	@	6.00	0.06
CAPLUS FILE COST=				
CONNECT HOURS	0.09	@	32.00	2.88
INTERNET HOURS	0.09	@	6.00	0.54
DISPLAYS IN FORMAT ABS	5	@	1.27	6.35
DISPLAYS IN FORMAT BIB	11	@	0.91	10.01

DISPLAYS IN FORMAT IND	5	@	0.27	1.35
SEARCH TERMS IN FIELD BI	15	@	1.55	23.25
CAPLUS FEE (5%)	43.84	@	0.05	2.19

SUMMARY BY FILE AND	COST CENTER	HOURS	ESTIMATED COST U.S. DOLLARS
HOME FILE	(NONE)	0.01	0.21
CAPLUS FILE	(NONE)	0.13	59.55
STNGUIDE FILE	(NONE)	0.01	0.06
COSTS INCLUDE TELECOMMUNICATION FEES		0.15	0.90

SUMMARY BY COST CENTER		HOURS	ESTIMATED COST U.S. DOLLARS
	(NONE)	0.15	59.82
YOUR TOTAL SESSION COSTS ARE		0.15	59.82

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-3.10	-3.10

IN FILE 'CAPLUS' AT 16:49:41 ON 26 JAN 2002

L14 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS
AN 1994:282461 CAPLUS
DN 120:282461
TI Development of spent solvent treatment process by a **submerged combustion** technique
AU Uchiyama, Gunzo; Maeda, Mitsuru; Fujine, Sachio; Amakawa, Masayuki; Uchida, Katsuhide; Chida, Mitsuhisa
CS Dep. Fuel Cycle Saf. Res., Japan At. Energy Res. Inst., Tokai, 319-11, Japan
SO J. Nucl. Sci. Technol. (1994), 31(3), 228-39
CODEN: JNSTAX; ISSN: 0022-3131
DT Journal
LA English
CC 71-5 (Nuclear Technology)
AB An exptl. study using a bench-scale equipment of 1 kg-stimulated spent solvents per h was conducted in order to evaluate the applicability of a **submerged combustion** technique for the treatment of spent solvents contaminated with TRU elements. This report describes the exptl. results on the combustion characteristics of the simulated spent solvents of tri-Bu phosphate and/or n-dodecane, and on the distribution behaviors of combustion products such as phosphoric acid, Ru, I, Zr and lanthanides as TRU simulants in the **submerged combustion** process. Also the exptl. results of TRU sepn. from phosphoric acid soln. by copptn. using bismuth phosphate are reported. The **submerged combustion** technique was applicable to the treatment of spent solvents including the distn. residues of the solvent. Based on the exptl. data, a new treatment process of spent solvent was proposed which consisted of **submerged combustion**, co-pptn. using bismuth phosphate, ceramic membrane filtration, cementation of TRU lean phosphate, and **vitrification** of TRU rich **waste**.
ST **submerged combustion** spent fuel reprocessing solvent; tributyl phosphate **submerged combustion**; dodecane **submerged combustion**; lanthanide transuranium simulant **submerged combustion**; copptn phosphate transuranium sepn radioactive **waste**; cementation phosphate sepn radioactive **waste**; filtration spent solvent fuel reprocessing; **vitrification** transuranium sepn fuel reprocessing **waste**
IT Gamma ray
(-emitters, recovery of, in treatment process for spent fuel reprocessing solvents)
IT Rare earth metals, reactions
RL: RCT (Reactant)
(combustion of transuranic simulant, in spent fuel reprocessing solvent treatment process)
IT Hydrocarbons, preparation
RL: FORM (Formation, nonpreparative)
(formation of, in simulated spent fuel reprocessing solvent treatment by **submerged combustion**)
IT Evaporation
Neutralization
(in nuclear fuel reprocessing spent solvent treatment process)
IT Cementation
(of transuranium-element depleted phosphate **wastes**, in treatment process for spent fuel reprocessing solvents)
IT Transuranium elements
RL: PROC (Process)
(recovery of, in treatment process for spent fuel reprocessing solvents)
IT Radioactive **wastes**
(spent solvent treatment process for fuel reprocessing, **submerged combustion** technique in)
IT Nuclear reactor fuel reprocessing

(spent solvent treatment process, **submerged combustion** technique in)

IT Filters and Filtering materials
(ceramic, in nuclear fuel reprocessing spent solvent treatment process)

IT Precipitation
(co-, in nuclear fuel reprocessing spent solvent treatment process)

IT Glass, oxide
RL: PROC (Process)
(radioactive-**waste**, transuranium-element enriched, in treatment process for spent fuel reprocessing solvents)

IT Combustion
(submerged, in nuclear fuel reprocessing spent solvent treatment process)

IT 12587-47-2P, Beta particle
RL: PREP (Preparation)
(-emitters, recovery of, in **submerged combustion** treatment process for spent fuel reprocessing solvents)

IT 34513-98-9
RL: PROC (Process)
(combustion of simulated spent fuel reprocessing solvent contg., radioactive **waste** disposal in relation to)

IT 74-88-4, Methyl iodide, reactions 75-03-6, Ethyl iodide 107-08-4, Propyl iodide
RL: RCT (Reactant)
(combustion of simulated spent fuel reprocessing solvent contg., radioactive **waste** disposal in relation to)

IT 10108-73-3, Cerium trinitrate 10138-01-9, Europium trinitrate 10361-83-8, Samarium trinitrate 13826-66-9, Zirconyl dinitrate
RL: PROC (Process)
(combustion of transuranic simulant, in spent fuel reprocessing solvent treatment process)

IT 112-40-3, Dodecane 126-73-8, Tributyl phosphate, reactions
RL: RCT (Reactant)
(combustion of, in simulated spent fuel reprocessing solvent treatment process, radioactive **waste** issues in relation to)

IT 7782-44-7
RL: PROC (Process)
(combustion, submerged, in nuclear fuel reprocessing spent solvent treatment process)

IT 13847-18-2, Barium phosphate
RL: PROC (Process)
(copptn. with, of transuranics in simulated spent fuel reprocessing solvent treatment process)

IT 124-38-9P, Carbon dioxide, preparation 630-08-0P, Carbon monoxide, preparation 7782-44-7P, Oxygen, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in simulated spent fuel reprocessing solvent treatment by **submerged combustion**)

IT 7553-56-2P, Iodine, preparation 15454-31-6P, Iodate (IO3-) 20461-54-5P, Iodide, preparation
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing solvent contg. alkyl iodides)

IT 7440-18-8P, Ruthenium, preparation
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing solvent contg. ruthenium nitrosyl nitrate)

IT 7440-18-8DP, Ruthenium, phosphate complexes
RL: PREP (Preparation)
(recovery of, from combustion of simulated spent fuel reprocessing solvent contg. ruthenium nitrosyl nitrate, radioactive **waste** disposal in relation to)

IT 13454-71-2P, Cerium monophosphate

RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. cerium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13537-10-5P, Europium(III) phosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. europium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13465-57-1P, Samarium(III) phosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. samarium nitrate, fuel reprocessing **waste** issues in relation to)

IT 13565-97-4P, Zirconium pyrophosphate
RL: PREP (Preparation)
(recovery of, from combustion of spent TBP solvent contg. zirconyl nitrate, fuel reprocessing **waste** issues in relation to)

IT 7440-07-5P, Plutonium, preparation
RL: PREP (Preparation)
(recovery of, from phosphoric acid solns. by copptn. with barium phosphate, spent fuel reprocessing solvent **waste** in relation to)

IT 7664-38-2P, Phosphoric acid, preparation
RL: PREP (Preparation)
(recovery of, from tri-Bu phosphate combustion in simulated spent fuel reprocessing solvent treatment process)

L14 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS
AN 1998:174931 CAPLUS
DN 128:234216
TI Manufacture of supplementary cementitious materials from industrial **wastes**
AU Mishulovich, Alex; Bhatty, Javed I.; Abbasi, Hamid A.; Rue, David; Olabin, Vladimir M.; Pioro, Leonard S.
CS Construction Technology Laboratories, Skokie, IL, USA
SO Proc. Int. Conf. Incineration Therm. Treat. Technol. (1996), 297-301
Publisher: University of California, Irvine, Irvine, Calif.
CODEN: 65TTAP
DT Conference
LA English
CC 58-1 (Cement, Concrete, and Related Building Materials)
Section cross-reference(s): 60
AB Supplementary cementitious materials (SCM) were manufd. by melting and **vitrification** of specially designed blends of **wastes** with the addn. of inexpensive natural materials (limestone, sand, shale, etc.). This approach opens an outlet for the rational use of **wastes** and reduces carbon dioxide emission usually assocd. with prodn. of conventional portland cement. The paper summarizes the results of the bench top phase of formulation and testing of SCMs prepd. from Illinois coal ash with the addn. of inexpensive natural or **waste** materials, such as limestone or cement kiln dust. Selection of the prospective compns. was based on the anal. of phase equil. in the system CaO-SiO2-Al2O3. Compns. were chosen that melt at temps. <1250.degree.. These compns. were realized by mixing the ingredients in the calcd. proportions. Performance of the produced materials was tested in blended cements and concretes. Blended cements incorporating SCMs are not only competitive in terms of strength but have an addnl. advantage of preventing or greatly reducing deleterious chem. reactions between the cement paste and concrete aggregates. This improves the durability of concrete. Unlike conventional portland cements, the supplementary cementing materials should be produced in the form of glasses to provide the necessary chem. reactivity of the product. Besides, **vitrification** prevents leaching of the trace elements present in the source materials. Submerged gas combustion was suggested and tested as the process of choice for commercialization of this technol. Pilot testing of the **submerged combustion** melter begins this year in a 250-kg/h test facility. Further studies are under way to finalize the prodn. process parameters and to investigate the products performance.
ST supplementary cementitious material industrial **waste**
IT **Wastes**
(industrial; manuf. of supplementary cementitious materials from industrial **wastes**)
IT Cement (construction material)
Recycling
(manuf. of supplementary cementitious materials from industrial **wastes**)